

REMARKS

Claims 1 - 28 are pending in the present application, of which claims 1 – 9 and 13 – 24 have been withdrawn from consideration. By this Amendment, claim 10 has been amended. No new matter has been added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated May 17, 2004.

Allowable Claim Subject Matter:

Applicants gratefully acknowledge the indication in item 5 of the Office Action that claims 25 and 26 would be allowable, if amended, to include all of the limitations of the base claim and any intervening claims.

However, for at least the reasons discussed below, it is respectfully submitted that all of claims 10 – 12 and 25 - 28 are allowable.

As To The Merits

As to the merits of this case, the Examiner relies on the new cited reference of Tsai et al. (U.S. Patent No, 5,668,024) in setting forth the following rejections:

- 1) claims 10, 11 and 28 stand rejected under 35 U.S.C. §102(b) as being anticipated by over Tsai et al.;

- 2) claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tsai et al. in view of Shibata (or record); and

3) claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tsai et al. in view of Shibata as applied to claim 12 above, and further in view of Wolf et al. (Silicon Processing for the VLSI Era – Vol. 1: Process Technology).

Each of these rejections is respectfully traversed.

Claim 10, as amended, now calls for *(c) implanting impurities of a second conductivity type opposite to said first conductivity type into a surface layer of said second region, and thereafter executing a first activation process to form first impurity diffusion region shallower than said isolation regions, the first impurity diffusion region begin directly surrounded by said second region of the first conductivity type, and providing a current path for charge carriers of said second conductivity type.*

For example, in the embodiment of Figs. 5A - 5H of this application, the implanted n-type region 308 is directly surrounded by a p-type well 301b of the opposite conductivity type. Therefore, negative electrons will be transported through the n-type region 308.

In contrast, Tsai first forms an n-type well 7 in the p-type substrate, and forms the n-type threshold adjust region 8 in an n-type well 7. That is, the n-type threshold adjust region 8 is directly surrounded by the n-type well of the same conductivity type. The p-channel transistor will be formed in the PFET region, in which positive holes will be transported through the n-type threshold adjust region 8. The conductivity type of the charge carries to be transported through the threshold adjust region 8 and the conductivity type of the region 8 are opposite.

Thus, it is respectfully submitted that the applied reference of Tsai fails to disclose or fairly suggest the features of claim 10, as amended, concerning *(c) implanting impurities of a second conductivity type opposite to said first conductivity type into a surface layer of said second region, and thereafter executing a first activation process to form first impurity diffusion region shallower than said isolation regions, the first impurity diffusion region begin directly surrounded by said second region of the first conductivity type, and providing a current path for charge carriers of said second conductivity type.*

Further, claims 11 and 28 depend from claim 10, and therefore are not anticipated by Tsai for at least the reasons set above with regard to claim 10.

In addition, with regard to claims 12 and 27, while Shibata may teach a laser thermal process for activating the implanted impurities and Wolf et al. may teach rapid thermal annealing, respectively, each of these references fails to supplement the lack of teaching by Tsai as discussed above.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

Response under 37 C.F.R. §1.111
Attorney Docket No. **020200**
Serial No. **10/084,367**

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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